LISTING OF CLAIMS

1 to 166. (Canceled)

167. (Previously presented) An isolated polynucleotide encoding a polypeptide comprising amino acid residues from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has cellulose synthase activity.

168. (Previously presented) The polynucleotide of claim 167, wherein the polypeptide comprises SEQ ID NO: 2.

169. (Previously presented) The polynucleotide of claim 167, wherein the polynucleotide comprises nucleotides from position 660 to position 2250 of SEQ ID NO: 1.

170-172. (Canceled)

173. (Previously presented) A transgenic plant cell comprising an exogenous polynucleotide encoding a polypeptide comprising amino acid residues from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has cellulose synthase activity.

174. (Previously presented) A transgenic plant comprising the plant cell of claim 173.

175. (Previously presented) The transgenic plant of claim 174, wherein the plant is a tree.

176-178. (Canceled)

179. (Previously presented) A vector comprising an isolated polynucleotide encoding a polypeptide comprising amino acid residues from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has cellulose synthase activity and wherein the polynucleotide is operably associated with a promoter sequence functional in a plant.

180. (Previously presented) A transgenic plant cell comprising the vector of claim 179.

181. (Canceled)

182. (Canceled)

183. (Previously presented) A method for producing a transgenic plant cell comprising introducing into the plant cell an exogenous polynucleotide encoding a polypeptide comprising amino acid residues from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has cellulose synthase activity or UDP-glucose binding activity.

184-186. (Canceled)

187. (Previously presented) The method of claim 183, wherein the coding sequence is operably associated with a promoter.

188. (Previously presented) The method of claim 183, wherein the polynucleotide comprises nucleotides from position 660 to position 2250 of SEQ ID NO: 1.

189-190. (Canceled)

191. (Currently amended) The method of claim 183, wherein the polynucleotide ~~is expressed in the sense orientation~~ comprises nucleotides from position 69 to position 3005 of SEQ ID NO: 1.

192. (Currently amended) The method of claim ~~183~~ 191, wherein the polynucleotide is expressed in the anti-sense orientation.

193. (Currently amended) A method of producing a transgenic plant cell comprising introducing into the plant cell ~~an exogenous~~ a vector comprising a promoter operably linked to a polynucleotide encoding a polypeptide comprising amino acids from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has cellulose synthase activity.

194. (Previously presented) The method of claim 193, wherein the polypeptide comprises SEQ ID NO: 2.

195. (Previously presented) The method of claim 193, wherein the polynucleotide comprises nucleotides from position 660 to position 2250 of SEQ ID NO: 1.

196. (Previously presented) The method of claim 194, wherein the polynucleotide comprises nucleotides from position 69 to position 3005 of SEQ ID NO: 1.

197. (Previously presented) The method of claim 193, wherein the polynucleotide comprises SEQ ID NO: 1.

198. (Currently amended) The method of claim ~~193~~ 196, wherein the polynucleotide is expressed in the ~~sense~~ anti-sense orientation.

199. (Currently amended) The method of claim ~~193~~ 195, wherein the polynucleotide is expressed in the anti-sense orientation.

200-203. (Canceled)

204. (Previously presented) A method for producing a transgenic plant comprising introducing into the plant an exogenous polynucleotide encoding a polypeptide comprising amino acid residues from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has cellulose synthase activity.

205. (Previously presented) A transgenic plant comprising the vector of claim 179.

206. (Previously presented) The transgenic plant of claim 205, which is a tree.

207-210. (Canceled)

211. (Previously presented) The method of claim 183, wherein the polypeptide has cellulose synthase activity.

212. (Previously presented) An isolated polynucleotide encoding a polypeptide comprising amino acid residues from position 220 to position 749 of SEQ ID NO: 2, wherein the polypeptide has UDP-glucose binding activity.

213. (Previously presented) The polynucleotide of claim 212, wherein the polypeptide comprises SEQ ID NO: 2.

214. (Previously presented) The polynucleotide of claim 212, wherein the polynucleotide comprises nucleotides from position 660 to position 2250 of SEQ ID NO: 1.